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Teaching Cases - Special Issue

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Teaching Case

GlobePort faces a *Knowledge Gap* in its Business Process Outsourcing

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Abstract

GlobePort, a nationwide adult-care business, offers its employees health insurance benefits using a variety of vendors. Each vendor has different medical/dental/life insurance plans with different application formalities. Two years back, GlobePort found it difficult to support all of these variations and decided to pursue business process outsourcing (BPO) of their benefits verification process and information systems updates. Recently there have been multiple complaints about issues faced by employees due to procedural and technological problems as a result of the outsourcing. Analysis of these complaints suggest that a knowledge sharing gap exists between GlobePort, its employees, the BPO provider and the insurance vendors. GlobePort needs to close this gap by adopting suitable knowledge management systems. Additionally, GlobePort is expanding its outsourcing arrangements to include several of their core business processes such as specialized adult-care tasks utilizing multiple vendors. This case asks the reader to select a set of knowledge management practices and collaboration technologies that can help GlobePort address their current employee complaints and support the challenges from the future expansion of outsourcing of their core adult-care processes.

Keywords: Knowledge management, Business Process Outsourcing, Collaboration systems, Business process management.

1. INTRODUCTION

GlobePort is a medium sized nationwide adultcare enterprise that has over 5000 employees. Their business faces a 30% turnover of employees throughout every year. The turnover stems from the grueling work environment that causes excessive attrition and the great demand for experienced workers in the industry. The regulations governing their business require them to provide health benefits to their Health insurance plan choices employees. available to full time employees are based on their individual pay grade level. GlobePort has very limited Human Resources (HR) staff and they were being stretched during their open enrollment period between November and December, when the company allows open benefits enrollment for their employees. With the recent proliferation of insurance vendors and their multitude of plans and a variety of regulations, forms and scrutiny processes, GlobePort's IT department is facing major staffing issues, as they try to support HR (alongside other functional departments) with application systems design, and development to manage the documentation needed for employee benefits enrollment and verification.

David Mayo is the area manager of the IT department supporting HR, and has been involved in supporting these applications for many years. Only two members of his IT team currently work on this enrollment application, that requires custom software design, development, and deployment support for new features every Fall. The two person team is also overloaded with creating difficult integrations with external insurance vendors' information systems. The stakeholders (insurance vendors and HR managers) keep changing their requirements every year, and even demanded supplemental reports that were not available in the custom in-house information system. All these demands were overwhelming David's limited IT budget/resources with increasingly more and more custom developed application code year after year. Occasionally, the custom developed software failed to meet the requirements of their own legal team. Tim Hardy, HR Director, recently found some discrepancies in how the coverage alternatives were being presented in the insurance verification application to the employees of GlobePort.

2. HEALTH INSURANCE VALIDATION

GlobePort is required to provide health insurance benefits to fulltime employees, who work at least 32 hours per week. However, not all employees need the health insurance plans provided by GlobePort, as some employees are dependents on their parents' or spouses' health insurance. However, those employees having outside health insurance must provide proof to GlobePort of that coverage, so that the regulators do not penalize GlobePort for failing to cover their employees. The employees are informed via their email account to go into the benefits information system and submit an insurance waiver request if they require their insurance premium deduction to be waived from their payroll account due to having other medical coverage. Employees only have a narrow timeline by which they must prove that they have medical insurance. Only after the proof of insurance is ratified, the premiums charged on their payroll is taken off. This validation of medical insurance is a sizable and voluminous process and involves lots of resources and manual effort, such as calling and emailing insurance providers. The employee insurance waiver processing starts a week before the employee starts their job and the employee(s) are apprised via e-mail once every week as long as the insurance premium fees are deducted on their payroll.

The primary goal of the business process outsourcing (BPO) engagement with EIV (Employee Indemnification Validation) was to off-load this exhaustive health insurance verification process to a third-party outsourcing vendor. EIV also does insurance waiver processing for several other organizations in addition to GlobePort and has a team of insurance validators that are very professional and efficient in this task. EIV follows a list of steps in their validation procedure:

- 1. GlobePort's IT department feeds data daily to EIV's server about any employees that need health insurance verification.
- EIV's verification database is then loaded daily by their database administrator (DBA) with the above information submitted by employees about their health insurance coverage such as the provider's name, telephone number, insurance number and other contact information.
- Once the data is loaded into the EIV database, the application then creates a ticket for each new entry. EIV's Insurance Validators then begin contacting the insurance companies to manually verify that the employees do have the valid health Insurance as they claim.
- 4. The insurance validators make up to three voice calls over the next two days to verify the coverage with the insurance companies and update the ticket each time as part of their employee insurance verification and waiver process.
- 5. If during the verification process, the validators get information that the health insurance of the employee is invalid then this information is updated by the application in the employee ticket, which can be then be accessed by GlobePort.
- 6. The EIV application has a design that limits the execution of the ticket to a maximum of three days to keep the ticket open. If within the time frame no information is received the ticket is then updated with a flag indicating 'insurance waiver denied' in their database and transmitted over to GlobePort.
- Employee health insurance that is validated and approved is given a 'insurance waiver approved' flag which is updated in EIV's database and transmitted over to GlobePort.

The above process was also adopted by GlobePort as an inherent process after their decision to outsource with EIV. However, the failure point in step 5, and the two data upload delays of 24 hours each in steps 4 and 6, have become problematic to GlobePort and is causing unexpected issues with their internal new employee onboarding processes. These issues hint at underlying knowledge sharing disconnects among the four stakeholders

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involved in the insurance validation process – GlobePort, their employees, EIV and the insurance vendors (Durst and Edvardsson, 2012). Due to these system failures, David Mayo has had to be in constant contact with the IT person of EIV to collect, interpret and disseminate case status to stakeholders, such as GlobePort's employees and HR managers.

3. KNOWLEDGE MANAGEMENT THEORY

Increasingly, organizations are adopting knowledge management systems (KMS) to support business processes and achieve organizational goals. In the business context, knowledge is defined as any information that is relevant and actionable (Davenport, De Long and Beers, 1998). Knowledge sharing practices have been found to be important in many organizational scenarios, such as learning new skills, solving problems, and responding to new challenges. The KM system must promote the willingness and capacity of individuals to share what they know and how to use what they learn.

Current IS research literature reveals that knowledge sharing is particularly difficult across multiple organizations such as GlobePort and EIV (Burgess, 2005). Many factors can impact knowledge sharing including the characteristics of the organizations, their relationship, the type of knowledge (tacit or explicit) and the knowledge creation, integration and transfer process (Argote, 1999; Ko, Kirsch and King, 2005; Inkpen and Tsang, 2005). There are two types of knowledge processing - interactive and integrative (Zack, 1999). Integrative knowledge processing systems provide better support for creating and using repositories to store and share explicit knowledge among stakeholders. However, interactive KM systems primarily focus on establishing interactions among those stakeholders to allow personalized sharing of tacit knowledge. In contrast to integrative KM systems, the repository is only a by-product of these human interactions, rather than the primary focus of the interactive KM system (Nonaka, 1994).

KMS Strategy Choices

Hansen, Nohria and Tierney (1999) identify two enabling strategies for knowledge sharing - a personalization strategy for sharing tacit knowledge with emphasis on building relationships verses a codification strategy for sharing explicit knowledge with emphasis on infrastructure. The codification strategy aligns with the development of intellectual capital, while the personalization strategy aligns with the development of social capital and relationships. Typically, IT solutions (such as FAQ, wiki's and dashboards) can support the codification strategy and facilitate the sharing of explicit knowledge between firms (Hislop, 2002). These tools allow explicit knowledge to be easily captured, codified, stored and shared. Management mechanisms, such as procedure, handbooks, and information technology system promote employees' willingness for sharing their explicit knowledge.

In contrast, human experience forms the foundation of tacit knowledge sharing (Nonaka and Takeuchi, 1995, Polanyi, 1966), because individuals cannot take advantage of "new" tacit knowledge unless they have formed personalized connections with it. Organizational practices that promote socialization, face-to-face interactions and human connections play a major role in tacit knowledge sharing by building social capital, a concept from social capital theory (Nahapiet and Ghoshal, 1998).

KMS Focus Choices

Three focus areas for KM practices have also been identified in the KM research literature (Stewart, 2001) - (1) structural capital, (2) human capital, and (3) customer capital. The KM practices focused on structural capital allow the subunits of an organization to exchange knowledge through established channels that can be easily reconfigured. Examples of structural capital initiatives include setting up dashboards that allow status to be entered, updated and visible in real time. These KM tools allow the exchange of project status among sub teams. KM assets that fall into the human capital focus area have its purpose of "enriching" the vendor's operations personnel. While a web portal to allow customers to submit feedback falls in the domain of harnessing customer capital.

BPO Management Model influences KMS Strategy and Focus

It is clear that the business process outsourcing (BPO) management model and the organizational KM strategy and focus need to be closely aligned. KM practices focused on human and customer capital require a personalization strategy for KMS and are needed for creating and harnessing tacit knowledge. The later are more difficult to implement and only produce benefits when paired with a partnership BPO management model.

Structural capital focused KM practices can succeed in a weakly coupled BPO management model, while human and customer focused KM need practices stronger client vendor partnerships (Zack, 2002). A human capital focused KM initiative will be expensive to implement when a pay-per transaction BPO management model is in place, resulting in lower net business impact. Likewise, a human capital focused KM initiative may not provide enough net benefits to the client firm in a noncore outsourcing strategy resulting in a lower net business impact (Figure 1).

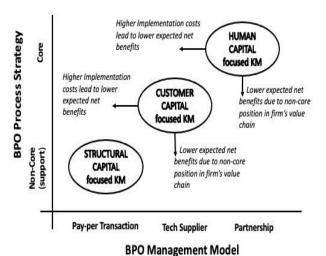


Figure 1: KMS Strategy and Focus selected per BPO Management Model

Dennis Bentley, a new GlobePort employee tried to interpret the ticket that showed his insurance validation was "not approved" and realized that the EIV ticket notes were too complicated to understand. Abbreviations and codified conventions are captured that would need training to fully interpret. Not much help or interpretation was offered by GlobePort's own IT department without the explicit involvement of EIV personnel.

The business goal of the business process (BPO) outsourcing arrangement between GlobePort and EIV was to segregate the two organizations to maximize efficiency using a "pay per transaction" management model. Interactions were limited and there was no synergy among the actors in the client and vendor organizations of the BPO. GlobePort could attempt to develop connections; and process actors on both sides could be encouraged to engage with each other as peers, but it won't be easy to quickly change the BPO

work culture, as both organizations are extremely short-staffed.

4. BPO INFRASTRUCTURE ISSUES

The outsourcing vendor, EIV was using a deployed services architecture on the Amazon Cloud to host their insurance validation application. During the first year of the outsourcing, GlobePort received several corrupt files from EIV's application. When EIV was contacted regarding the errors, they took over 24 hours to rebuild a workable file with changes rolled back to a prior validation period. Data was lost and this caused a difficult situation as affected GlobePort employees needed to resubmit their insurance waiver requests. Pam Shaw from the HR staff had to deal with multiple calls and emails asking for updates. The file corruption occurred multiple times (6 times as tracked by David Mayo) and was attributed to a latency problem caused due to concurrency issues in the application.

Additionally, there were also two occasions when the Amazon cloud server was updated with platform patches, which caused the EIV application to fail. The errors were related to user authentication and tickets could not be accessed by GlobePort. A significant outage was experienced in early 2017, when Amazon cloud services was down due to a partial failure of the hosting platform, effecting many AWS customers (including EIV). Again in the month of March 2017, the Amazon cloud was down for a few hours as the Amazon team was troubleshooting a platform problem, that was related to their billing system when one of Amazon's technicians erroneously executed a command that took a large number of AWS servers offline without any prior notification.

While these outages were not the responsibility of EIV, yet the troubles propagated to GlobePort. GlobePort was now stuck with using EIV for thieir validation process as a single outsourcing vendor.

5. GLOBEPORT'S BPO EXPANSION PLANS

Even after the occasional troubles and setbacks faced in the BPO, GlobePort's senior leadership and board of directors still viewed outsourcing as a viable strategy. They have asked David to determine the changes necessary to more effectively outsource additional non-core HR processes and core business processes involved in adult-care delivery to external vendors. The goal being to move away from entrenched internal cost centers towards a "best provider" approach.

Adult care processes are unique in that they rely on professionals to dynamically build flexible care networks of multiple specialized providers and professionals to address an adult's needs (Ghosh and Scott, 2005). The individual is a complex entity that plays multiple roles in the care process as not only the source of knowledge creation and care need identification but also the recipient of the care. This delivery of adult care involves the involvement of multidisciplinary expertise, which a single person cannot possess. The patient is also a user of the knowledge to better manage his or her own care issues. The effectiveness of the adult-care process is only achieved through facilitating the collective practice of several professionals and the person receiving the care.

As David Mayo reflects on his EIV BPO experience, he realizes that things will get more interesting in the future. Mayo concluded, "because of the complexities involved with problem identification, interactive knowledge processing and tacit knowledge sharing will play a major role in outsourced adult-care processes".

6. BUILDING BPO INTEGRATION with EIV

David Mayo had read about using collaboration tools in outsourcing research papers that could allow the IT team on the GlobePort side, to learn in real situations by having one of the vendor staff engaging with them on certain tickets. A key success factor was staff motivation, and budgeting money and staff time for the cross training. David started a pairing process to increase his staff's capabilities and encourage interactions between client and vendor staff on suitable learning tickets. The mentoring resources on either side were limited and needed to be managed effectively. To serve the two-fold goals of providing training to the client personnel as well as supporting the bi-directional knowledge transfer, David decided to institute a program to evaluate and control the mentoring tasks tightly (Ferreira, Mueller and Papa, 2020). He forced his staff to apply for EIV cross training on a per transactional ticket basis. He established a review board to screen each request for knowledge potential and optimal fit for the goals. If a ticket was selected, then staff from the vendor and the client worked collaboratively on the validation over the span of 3 days while the ticket was active.

David found that as staff worked together, they set and met goals, and trust, understanding of cultural diversity and joint ownership of work were all fostered. However, the mentoring program was seen as counter to the objectives of outsourcing and other GlobePort managers viewed it as a drain on their limited client staff, which had been cut in successive company restructuring. With limited staff, who were all very busy even without peering duties, David was pondering whether other means, such as technology and tools might be more effective to build similar capabilities and exchange knowledge.

7. COLLABORATION TOOLS

One of the major factors revolutionizing the nature of electronic knowledge sharing and collaboration was the development of tools for sharing work, commonly referred to as workgroup/collaboration software. Currently Web 2.0 technologies have brought teleconference technologies (e.g. Microsoft's Teams, Zoom and Cisco's WebEx) to the forefront of the Internet. Systems like Wiki's, podcasting Weblogs and have allowed organizations to tap into remote capabilities by leveraging expertise from one part of the world to another. Other complementary technologies include WWW and email and Instant Messaging systems and portals such as SharePoint. They looselv organized collection are а of technologies, such as content management, workflow processing, contact management, scheduling, conferencing, communications, and document sharing; all of which revolved around the theme of supporting collaborative work These systems can only be best (Table 1). utilized with careful organizational strategic planning, training of users, business process analysis, and management tracking.

Collaboration Tool	Objectives and Usage Goals
Listservers, Discussion Boards, Tele- Conferencing	Capturing threads of discussions on topics raised by team members and their subsequent contributions.
Checklists	To guide validation tasks from past experience and ensure that adequate data collection and situational analysis is being done. These checklists support building best practices
Lessons Learnt Lists, FAQ	To ensure that new process expertise is captured and shared for future use

Training Presentations	Training materials are developed by scouring the listservers, discussion boards and FAQ. Presentations include all the listerv threads and their resolutions, the list of lessons learnt and pointers to any checklists or process/product document that is
	considered a " <i>must read</i> ".

Table 1: Collaboration Tools for KM

8. CONCLUSIONS

GlobePort had made the hurried decision two years ago to pursue BPO of their health insurance validation process. Even after the occasional troubles and setbacks faced in the BPO, GlobePort's senior leadership and board of directors still view outsourcing as a viable business strategy. They have asked David Mayo to determine a plan to select and outsource additional HR process and expand outsourcing to core business processes, such as adult-care to multiple external vendors. However, integrated adult-care processes (core) will have many stakeholders connected by the input/outputs of the subprocesses and any issues can not only lead to employee dissatisfaction but also process failure.

9. QUESTIONS

After reading the scenario presented in the GlobePort and EIV business process outsourcing case, answer the following questions:

- 1. Evaluate the decision to outsource the insurance validation process by weighing the benefits and drawbacks?
- 2. What is the "knowledge sharing gap" in the BPO between GlobePort and EIV?
- 3. What knowledge management practices and technologies can help address the above "knowledge gap" most effectively?
- Did David Mayo select the correct KMS strategy and approach to establish knowledge sharing between GlobePort and EIV? Justify your answer.
- 5. GlobePort wants to expand their use of Business Process Outsourcing to include core processes. What should David Mayo do differently for his KMS in the future to support this new type of outsourcing?

6. Illustrate the differences between KM systems for supporting core adult-care business process that utilize tacit knowledge versus supporting business processes that utilize explicit knowledge.

9. REFERENCES

- Argote, L. (1999). Organizational Learning: Creating, Retaining and Transferring Knowledge, Kluwer Academic, Boston, MA. 1999.
- Burgess, D. (2005), *What* Motivates Employees to Transfer Knowledge outside their work unit? *Journal of Business Communications* (42:4), 2005, pp. 324-348.
- Davenport, T.E., De Long, D.W. and Beers, M.C. (1998), Successful Knowledge Management Projects, Sloan Management Review, winter, 43-57.
- Durst, S. and Edvardsson, I. (2012), Knowledge management in SMEs: a literature review, *Journal of Knowledge Management* (16:6), pp. 879-903.
- Ferreira, J., Mueller, J. and Papa, A. (2020), Strategic Knowledge Management: theory, practice and future challenges, *Journal of Knowledge Management* (24:2), pp. 121-126.
- Ghosh, B., Scott, J.E. (2005). "Effective Knowledge Management for Hospital Nurses".. Omaha, NE: Proceedings of the 11th Americas Conference on Information Systems.
- Hansen, T., Nohria, N. and Tierney, T. (1999), What is your strategy for Managing Knowledge? *Harvard Business Review*, March-April 1999, page 106-116.
- Hislop, D. 2002. Mission Impossible? Communicating and Management Knowledge via Information technology, *Journal of Information Technology* (17), 165-177.
- Inkpen, A.C. and Tsang, E.W.K. (2005), Social Capital, Networks and Knowledge Transfer, *Academy of Management Review* (30:1), 2005, pp. 146-165.
- Ko, D.G., Kirsch, L.J. and King, W.R. (2005), Antecedents of Knowledge Transfer from Consultants to Clients in Enterprise System Implementations, *MISQ* (29:1), 2005, pp. 59-85.
- Nahapiet, J. and Ghoshal, S. (1998), Social Capital, Intellectual Capital and the Organizational Advantage, *Academy of*

Management Review (23:2), 1998, pp. 242-268.

- Nonaka, I. (1994), "A dynamic theory of organizational knowledge creation", Organization Science, vol 5, no 1, 1994, page 14-37.
- Nonaka, I. and Takeuchi, H. (1995), The knowledge-creating company: How Japanese companies create the dynamics of innovation, Oxford University Press, USA (1995)
- Stewart, T. (2001), The Wealth of Knowledge: Intellectual Capital and the Twenty-First Century Organization, Nicholas Brealey, London.
- Zack, M. (1999), Managing Codified Knowledge, Sloan Management Review, Summer, 45-58.
- Zack, M.H. (2002), Developing a knowledge strategy, *California Management Review*, Vol. 41 No. 3, pp. 125-145.